
Common Equipment Diagnostic (LD 35)

The Common Equipment Diagnostic (LD 35) program is used to maintain the Central Processing Unit (CPU) and related cards. It can be run in background, during the daily routines, or loaded manually to enter commands. Problems are reported by CED messages.

CED messages

CED0000	No errors detected.
CED0001	Invalid number of characters in command. Action: Check and re-enter the command.
CED0002	Invalid character in command. Action: Check and re-enter the command.
CED0003	Invalid command. Action: Check and re-enter the command.
CED0004	Incorrect number of arguments. Action: Check and re-enter the command.
CED0005	Invalid argument. Action: Check and re-enter the command.
CED0010	Memory number out of range. Allowable range depends on system type. Action: Check number and re-enter code.
CED0011	The specified card is active and may not be tested.

CED0012	Memory test on specified card failed. Probable fault on memory card. If fault persists after card replaced, then suspect following cards: 1. Memory cards 2. Changeover and Memory (CMA) card 3. Miscellaneous (MISC) card.
CED0013	Memory test on specified card failed. Probable fault on memory card. If fault persists after card replaced, then suspect the following cards: 1. Memory cards 2. Changeover and Memory (CMA) card 3. Miscellaneous (MISC) card.
CED0014	Watchdog timer failed to time out. Probable fault on MISC on active CPU. Action: Replace the MISC card. If the fault still persists, replace the CPU card, Function (FN) or Interface (IF) card.
CED0015	Memory card passed test but is not in configuration record. Action: If module is supposed to be in the system, check the configuration record.
CED0016	The specified spare is not on the active CPU and may be tested.
CED0017	Spare number must be 0 or 1.
CED0021	The spare R/W memory is not switched in for the card you wish to replace.
CED0022	The spare R/W memory card is being used by the system.
CED0023	The card number of the spare is not between 32 and 47 inclusive.
CED0024	Memory card could not be enabled because soft memory failure threshold was exceeded. Response to ENL N command.
CED0030	The extender cannot be enabled since it already is enabled. Action: Check and re-enter the command.
CED0031	The near-end extender did not respond and therefore cannot be enabled. Suspect a faulty near-end extender.
CED0032	The far-end extender did not respond and therefore cannot be enabled. Suspect a faulty far-end extender. The near-end extender may be faulty as well.

CED0033	The extender to the Intergroup Switch (IGS) via and the Junctor is not a Segmented Bus Extender (SBE) and therefore cannot be enabled. Action: Check and re-enter the command.
CED0034	The extender to the IGS via the Junctor did not respond and therefore cannot be enabled. Suspect a faulty extender.
CED0035	SBE is not configured.
CED0036	SBE is already disabled.
CED0037	SBE is unequipped or is equipped and disabled.
CED0038	SBE enabled but not configured.
CED0039	SBE could not be enabled.
CED0050	Specified customer does not exist. Action: Check the number. Re-enter the command.
CED0059	System does not have two CPUs.
CED0060	CMA card did not respond. Probable fault on CMA card associated with nonactive CPU.
CED0061	A CE bus is disabled. The CPU cannot be changed. Probable bus fault. Action: Use Maintenance Tape to clear.
CED0062	A spare has replaced a disabled card.
CED0063	CPU changeover disallowed because the associated Peripheral Signaling (PS) card providing the real time clock is disabled. Action: Use LD 32 to enable the PS card before using SCPU.
CED0065 x	Cannot TCPU or SCPU when acting CPU is in maintenance mode. In this case, x indicates the inactive CPU, or: CPU x has failed (minor alarm lamp lit on attendant console). Action: Suspect CPU cards or CE extenders between CPUs.
CED0066	CPU is in maintenance mode and an attempt is made to TCPU or SCPU in LD 35. Changeover card did not respond. Faulty CMA card on nonactive CPU.
CED0067	Changeover card did not respond. Requested function could not be performed. Faulty CMA card.

CED0068	Only extenders on the idle CPU may be enabled or disabled.
CED0069	Extenders not equipped.
CED0070	Cannot perform CPU changeover because some loops, PS cards or Intergroup Switch cards do not work on the other CPU. An extender fault on the second CPU is suspected. Action: Use the STAT EXT command to determine which one.
CED0071	Cannot switch CPUs because some memories do not work on the other CPU. Suspect CMA card.
CED0072	Cannot switch CPUs because spare memory is faulty. Suspect CMA card.
CED0073	Cannot perform CPU changeover because the tape interface on the other CPU does not work. Minor alarm lamp lit on attendant console.
CED0074	Cannot switch CPUs because the other CPU has a stuck interrupt or faulty real time clock. Minor alarm lamp lit on attendant console.
CED0075	Cannot switch CPUs because the other CPU is faulty. Minor alarm lamp lit on attendant console.
CED0080 xx	Spare memory card number xx has failed.
CED0081 x	The spare R/W memory on CPU x failed the daily memory test (SL1M). The spare 16K memory failed the daily checksum verification test on the spare chip row.
CED0082	No attempt was made to perform CPU changeover during midnight routines because of an uncleared fault. Minor alarm lamp lit on attendant console.
CED0083	The spare on the CPU that was active at the time of test, failed daily memory test.
CED0085	The shelf number is not zero or one. Action: Check data and re-enter the command.
CED0086	The shelf memory decode test failed. Test each Memory card individually using the MEM command. Action: If all cards work but consistently fail the SHLF test, suspect the CMA or Memory cards.
CED0087	No test was performed as no cards are disabled on the specified shelf. Action: Check the data and re-enter or disable the cards to be tested on the shelf.

CED0088	The memory card may not be enabled as the associated CMA card is not. Action: Use the ENL CMA command to enable the CMA.
CED0089	The CMA may not be disabled because the associated memory is not disabled. Action: Use the DIS command to disable all the associated memory.
CED0090	You are not allowed to enable modules between 32 and 47 except spares.
CED0091	The module is already enabled.
CED0092	The module is not equipped and therefore cannot be enabled.
CED0093	The card is a spare which has been used to replace a faulty card.
CED0094	The card has failed the memory test. See CED013.
CED0095	The spare QPC30 card is required by the system. This module contains programs and may only be enabled by the REP command or a system reload.
CED0096	The card may not be disabled because the corresponding card of the redundant configuration is disabled. Action: Enable the corresponding card.
CED0097	The CMA number is not 0 or 1. Action: Check the number and re-enter.
CED0098	The CMA on the active CPU may not be enabled or disabled. Action: Use the SCPU command to perform CPU changeover so that the CMA is no longer on the active CPU.
CED0099	The CMA failed to respond and therefore may not be enabled. Suspect a faulty CMA. The CMA on the active processor may also be faulty.
CED0100pg cpu xxxx	The read and write Memory Trouble Register (MTR) bits were different. The card will be disabled. Suspect CMA card. (See note after CED207)
CED0101pg cpu xxxx	Memory unequipped but MTR not set. The MTR will be written to disable the card. If the memory is not equipped, suspect CMA card. (See note after CED207)
CED0102 mem cpu xxxx	The card should have been disabled but the MTR said it was enabled. Action: Replace the faulty card. (See note after CED207)

CED0103 mem MTR xxxx The indicated memory card has failed and is disabled. The card indicated may be faulty.

MTR = Memory Trouble Register, 0-15 (one MTR is allocated for every 256K of memory).

Action: Test the card manually using LD 35. The card should be replaced and returned only after failing this test.

If LD 35 is part of the midnight routines, the card is tested automatically. If the CED103 message continues with random memory failure, a faulty CMA card may be the cause. Replace faulty CMA card. (See note after CED207)

CED0104 cma cpu 0000 The specified CMA failed to respond. The CMA that failed to respond is probably faulty.

cma - the CMA that failed

cpu - the active CPU when the fault occurred

0000 - always 0000

CED0105 cpu count Invalid interrupts are occurring. Possible fault occurs on both CPUs, suspect a faulty card on a network shelf. (See note after CED207)

CED0106 p la ha Soft memory failure has been recorded against memory card p. The number of failures now recorded against the low address range of the card (la) and the number of failures now recorded against the high address range (ha).

CED0107p la ha Hard memory failure has been recorded against memory card p because the fault count has exceeded the hard failure threshold. The current number of failures now recorded against the low address range of the memory card (la) and the high address range (ha).

CED0108 p Single bit fault on memory card p.

CED0109 p Memory fault on card p.

CED0110 Upper write protect boundary is incorrect.

Action: Choose the hardware value. Perform a parallel sysload.

CED0111 Upper write protect boundary is incorrect.

Action: Choose the software value. Perform a parallel sysload.

CED0112 Both hardware and software upper write protect boundaries are incorrect.

Action: Perform a parallel sysload.

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- CED0113 Hardware lower write protect boundary is incorrect.
Action: Perform a parallel sysload.
- CED0114 Upper write protect boundary is incorrect.
Action: Choose the hardware value. Perform a parallel sysload.
- CED0115 The masked software upper write protect boundary value falls below Z_SOFT_P_BND. Attempting to correct value by adding 4K.
- CED0116 Updated value exceeds the Z_SOFT_U_BND. Attempting to determine the high write protect boundary from the linked list.
- CED0117 FATAL: Invalid write protect boundaries. Attempts to correct boundaries failed. Perform parallel sysload immediately.
- CED0200 p1 p2 pn The CED found those cards listed as disabled or partially disabled (some segments within the card disabled) during the midnight routines.
Action: Disable the card and perform a memory test.
- CED0201 cpu pg ddr pf sf A memory failed while the primary and secondary were being compared. Failed memory location is indicated by pg addr and type of fault is indicated by prime fault (pf) and secondary fault (sf). These fields contain the same data as the fault code field 1 in the INI000 message (see INI error codes). The failed card should be replaced. (See note after CED207)
- CED0202 cpu pg addr pd sd The data in the primary (pd) and secondary (sd) differed at the specified address. This error can result when a double bit error occurs in a word in a memory.
- If the fault occurred in a data store, CED will cause a code 0012 initialize to clear up the data. If a CED203 occurs for the same page, the primary is suspect. Otherwise suspect the secondary.
- If the fault occurred in a protected data store or firmware store and the contents of the primary module are correct (i.e., checksum successful) the primary will be copied into the secondary. (See note after CED207)
- CED0203 cpu pg The checksum failed on the specified page. This means that program or data stored in the memory is incorrect.
- If the page is protected data store, data dump will be inhibited because the integrity of the data cannot be guaranteed. (See note after CED207) If the page is a protected data page, data dump may be prevented. See LD 43, message EDD016 for further information.
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CED0204 cpu memory The memory card was tested at midnight and failed.

Action: The card must be replaced. (See note after CED207)

CED0205 cpu mem The memory card was tested at midnight and passed. The card was enabled. If the secondary was disabled, an attempt will be made to enable it. The card may have an intermittent fault.

Action: If the problem persists, replace the card. (See note after CED207)

CED0206 cpu cma The CMA failed when the midnight routine tried to enable it. No further memory testing will be done.

Action: Replace the CMA, the inter-CMA cable or the other CMA. (See note after CED207)

CED0207 cpu cma The CMA was successfully reenabled by the midnight routine. Interpretation of data accompanying CED100 to 207 is as follows:

pg = the page that had the problem. This problem could be in the card on shelf 0 or 1. PG is only printed for NT, RT, and XT systems. The pg information can be ignored.

addr = address of the fault.

cma = Changeover and Memory Arbitrator card

cpu = CPU that was active when the problem occurred

count = number of invalid interrupts which have occurred in the last 30s

memory = memory card that had the fault

xxxx = m1m2m3m4

Where:

m1m2 = old contents of Memory Trouble Registers (MTR) for the page

m3m4 = new contents of MTR for the page.

CED0300 Temporary module is not equipped or is faulty.

CED0301 Replaced module is not equipped or is faulty.

CED0302 Specified module has not been spared. One of the system memory modules is faulty.

CED0303 Spare is disabled.

Action: Replace module 0.

CED0304	Spare is in use.
CED0305	Spare failed memory test. Action: Replace module 0.
CED0306	The specified module has not been replaced by the temporary module.
CED0307	The temporary module is in use.
CED0401	Cannot determine which CPU is active.
CED0402	System Clock must be switched before proceeding.
CED0403	The specified System Clock Generator (SCG) is out of range.
CED0404	The specified System Clock Generator (SCG) is not responding.
CED0405	The specified System Clock Generator (SCG) is already enabled.
CED0406	The idle CPU must be switched in as the active CPU before proceeding with the command.
CED0407	Intergroup Switch is out-of-range.
CED0408	Intergroup Switch is not responding.
CED0409	The specified Intergroup Switch is already enabled.
CED0410	Only one DISI IGS is allowed at a time.
CED0411	DISI IGS command is completed.
CED0412	System Clock c cannot be switched to replace the presently active clock.
CED0450	Invalid command for SL-1 SN or ST.
CED0502	That command is only valid for system Option 21 with X11 Release 18 and later.
CED0503	Battery test failed. Install a new MSPS card or replace the battery.
CED0504	Battery not configured. If a battery is present on the MSPS (NTND02BA) then set LD 17 prompt BATT to Yes before doing BATT test.
CED0505	That command is not valid for system Option 21.